



# Factors That Enhance and Hinder the Retention and Transfer of Online Pre-Clinical Skills Training to Facilitate Blended Learning [Response to Letter]

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## Dear editor

Thank you for the opportunity to respond to the correspondence received regarding our paper (Enoch et al, 2023). We appreciate the engagement of the correspondents with our paper and value their insights based on their experiences with virtual learning. We aim to address their concerns and offer clarification where necessary.

### Selection bias:

Our paper was based on the adapted teaching strategies that were introduced in our institution during the disrupted learning context of the COVID-19 pandemic. The student cohort involved in our study had unique exposure: onsite teaching in their first year (2019), purely online instruction in their second year (2020) due to the COVID-19 lockdown, and a blend of both in their third year (2021) capped with an onsite clinical readiness session. This cohort's diverse learning experiences, spanning onsite, online, and blended methods, positioned them uniquely to evaluate the different teaching approaches. For a comparative analysis, we benchmarked the 2021 3rd year cohort's performance against the 2019 3rd year cohort, taught onsite pre-COVID. This comparison, using formative and summative Objective Structured Clinical Examinations (OSCEs), sought to minimise the sampling bias linked to pre-existing knowledge affecting the 2021 group's performance.<sup>1</sup>

### Institutional characteristics

Two of the major factors stated in Botma et al's<sup>2</sup> framework regarding transfer of learning involves the design of learning and institutional support. Both of these aspects were examined in our questionnaires, probing students' and tutors' perceptions of the adjusted teaching design. Our study revealed significant improvements in three domains of clinical skills after implementing the revised online teaching strategies, stressing the importance of considering these modifications in diverse settings.

Sebbani et al's study further states that traditional lecture designs typically do not translate well to the online classrooms<sup>3</sup> and that adaptations must be made based on student characteristics and environmental/workplace factors. As mentioned above, the qualitative responses by our study participants followed the assessment of their competency during formative and summative OSCEs. Therefore, to replicate this study in other settings, these factors must be considered and applied. The adaptations to the online clinical skills curriculum at our institution are outlined in a previous study by Enoch et al.<sup>1</sup>

### Use of a 6-point Likert scale:

Our mixed-method approach, which combined closed and open-ended questions, enabled participants to articulate their responses in their own words, capturing their holistic experience of the blended curriculum.

A 6-point Likert scale allows a higher trend of discrimination for psychological tests<sup>4</sup> as opposed to "knowledge" based tests of a topic. A statistician guided our questionnaire's development and the subsequent data analysis.

While the pandemic necessitated several single-center studies, we concur with the correspondents about the value of multi-center studies and believe they could now provide richer insights for blended learning in medical education.

## Disclosure

The authors report no conflict of interest in this communication.

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